

**ENVIRONMENTAL ASSESSMENT FOR 10 BLM ALLOTMENTS
LOCATED IN THE PECOS HEADWATERS WATERSHED
DOI-BLM-NM-F020-2010-0028**

PURPOSE AND NEED

One of the major uses of public lands administered by the Bureau of Land Management (BLM) has traditionally been the grazing of cattle, sheep or horses for the benefit of individuals and communities throughout the western United States. Livestock grazing is a provision of public land legislation, including the Taylor Grazing Act, the Endangered Species Act, the Federal Land Policy and Management Act, and the Public Rangelands Improvement Act. To ensure legislative compliance, the BLM needs to provide for livestock grazing in a manner that promotes healthy, sustainable rangeland ecosystems.

This document provides information necessary to determine whether, and under what conditions, the BLM should renew permits for cattle grazing on ten allotments within the Pecos Headwaters watershed for an additional 10 years. The ten allotments are being analyzed in one document in order to consider the cumulative effects of livestock on the BLM parcels within the Pecos Headwaters watershed and to improve the efficiency of the permit renewal process. The allotments addressed in this Environmental Assessment include: #734 Eighty Four, #742 Tres Hermanos, #765 South Valle Chimal, #774 West Arriba, #782 Valle de la Cabra, #840 Cañon Blanco, #875 Mesa el Toro, # 907 El Cerrito Allotment, #913 Rincon Vigil and #943 Ox Shoe. Individual allotment maps are available at the Taos Field Office or can be obtained by visiting www.geocommunicator.gov.

CONFORMANCE WITH PLANS

The proposed permit renewals within this document are in conformance with the Taos Resource Area Management Plan (1988). Livestock grazing impacts were analyzed on a Resource Area wide basis in the Taos Resource Management Plan. An Allotment Evaluation (AE) document has been prepared for each allotment and is available for review at the Taos Field Office.

SCOPE / IDENTIFICATION OF ISSUES

In January of 2009 a meeting was held with the BLM interdisciplinary team to inform them that these permits were under consideration for renewal, and this warranted a field visit to determine if standards and guidelines are being met in the subject allotments. Also, a letter was sent to the affected lessees (03/03/09) and all interested publics (03/02/09) to inform them that the subject allotments were being visited to assess standards and guidelines. Field evaluations were conducted between 04/03/2009 and 04/20/2009. After the field evaluations were completed and Allotment Evaluations were prepared, the affected lessees and interested public were given an opportunity to provide comments on evaluations from July 12, 2010 through August 11, 2010.

Based on these efforts, the following issues have been determined relevant to the analysis of this action and are addressed in the Affected Environment / Environmental Impacts section:

- | | | |
|----------------------------------|------------------------------------|----------------------------|
| • Climate | • Noxious Weeds | • Social / Economic Issues |
| • Water Quality | • Wildlife | • Air Quality |
| • Standards for Rangeland Health | • Threatened or Endangered Species | • Vegetation |
| • Wetlands / Riparian Areas | • Cultural Resources | |

The following issues were considered but dismissed from analysis:

- **Native American Religious Concerns:** There have been no areas of concern identified within the subject allotments. All tribes within the Field Office boundary have received the opportunity to provide information

on any areas of concern in or near the subject allotments.

PROPOSED ACTION AND ALTERNATIVES

Proposed Action (same as No Action Alternative)

Re-issue a 10-year term grazing permit without any changes as outlined in Table 1. For additional information, refer to Allotment Evaluation documents available for each allotment at the Taos BLM Field Office.

Table 1. Outline of allotment guidelines for permit renewal

Allotment Number	Livestock Type	Livestock Number	Season of Use	Total Federal Acres	Pastures	Grazing System	Proposed Improvements
734	Cattle	3	3/01 - 2/28	192	1	Rotational	None
742	Cattle	2	3/01 - 2/28	101	1	Rotational	Possible vegetation manipulation by fire, herbicide, or mechanical means **
765	Cattle	2	4/01 - 10/31	120	1	Rotational	None
774	Cattle	5	11/01 - 2/28	117	1	Rotational	None
782	Cattle	1	4/01 - 10/31	40	1	Rotational	None
840	Cattle	12	4/01 - 10/31	814	2	Rotational	Possible vegetation manipulation by fire, herbicide, or mechanical means **
875	Cattle	1	4/01 - 10/31	118	1	Rotational	Possible vegetation manipulation by fire, herbicide, or mechanical means **
907	Cattle	1	3/01 - 2/28	80	1	Rotational	None
913	Cattle	2	3/01 - 2/28	160	1	Rotational	Possible vegetation manipulation by fire, herbicide, or mechanical means **
943	Cattle	1	11/01 - 6/30	63	1	Unknown	None
Monitoring: BLM would continue the rangeland monitoring study program, continue to consult with the grazing permittee on placement of mineral and supplemental feed and continue monitoring for new populations of noxious weeds.							
** These would be addressed in a subsequent NEPA document if and when funding is available.							

Alternative 1, No Grazing:

Do not issue grazing permits for these allotments, thereby suspending livestock grazing (No Action).

Location and Maps

734 - Located approximately 17 miles southeast of Romeroville in San Miguel County, New Mexico. Elevation on this allotment is roughly between 5,700 and 5,900 feet. The allotment is located on the USGS Mesa Chupinas 7.5 minute series topographic map. T. 13 N., R. 17 E. Sec 34; T. 12 N., R. 17 E. Sec 3.

742 - Located approximately 2 miles southeast of Bernal in San Miguel County, New Mexico. Elevation on this allotment is roughly between 5,900 and 6,200 feet. The allotment is located on the USGS Tecolote and Villanueva Quadrangle 7.5 minute series topographic maps. T. 13 N., R. 16 E. Sec 6 and 8. This allotment is comprised of two parcels.

765 - Located approximately 14 miles east of Villanueva in San Miguel County, New Mexico. Elevation on this allotment is roughly between 6,900 and 7,100 feet. The allotment is located on the USGS Laguna Ortiz

Quadrangle 7.5 minute series topographic map. T. 12 N., R. 12 E. Sec 1, 12 and 13.

774 - Located approximately 2 miles west of Ribera in San Miguel County, New Mexico. Elevation on this allotment is roughly between 6,150 and 6,250 feet. The allotment is located on the USGS Sena Quadrangle 7.5 minute series topographic map. T. 13 N., R. 14 E. Sec 8.

782 - Located approximately 16 miles west of Villanueva in San Miguel County, New Mexico. Elevation on this allotment is roughly between 6,700 and 6,800 feet. The allotment is located on the USGS Mesa el Toro Quadrangle 7.5 minute series topographic map. T. 12 N., R. 12 E. Sec 23.

840 - Located approximately 10 miles west of Villanueva in San Miguel County, New Mexico. Elevation on this allotment is roughly between 6,400 and 7,000 feet. The allotment is located on the USGS Laguna Ortiz and Leyba Quadrangle 7.5 minute series topographic maps. T. 12 N., R. 13 E. Sec 22, 33 and 34; T. 13 N., R. 13 E. Sec 3. This allotment is comprised of three parcels.

875 - Located approximately 6 miles northeast of White Lakes in San Miguel County, New Mexico. Elevation on this allotment is roughly between 7,000 and 7,200 feet. The allotment is located on the USGS Recona Quadrangle 7.5 minute series topographic map. T. 12 N., R. 12 E. Sec 29.

907 - Located approximately 3 miles east of Villanueva in San Miguel County, New Mexico. Elevation on this allotment is roughly between 5,600 to 5,800 feet. The allotment is located on the USGS Villianueva Quadrangle 7.5 minute series topographic map. T. 12 N., R. 15 E. Sec 12.

913 - Located approximately 9 miles east of White Lakes in San Miguel County, New Mexico. Elevation on this allotment is roughly 7,100 feet. The allotment is located on the USGS Leyba and Mesa el Toro Quadrangle 7.5 minute series topographic maps. T. 11 N., R. 12 E. Sec 1 and 12.

943 - Located approximately 3 miles west of San Jose in San Miguel County, New Mexico. Elevation on this allotment is roughly between 6,400 to 6,700 feet. The allotment is located on the USGS North San Ysidro Quadrangle 7.5 minute series topographic map. T. 14 N., R. 13 E. Sec 25.

See Figure 1 for a map of the subject allotments.

AFFECTED ENVIRONMENT / ENVIRONMENTAL IMPACTS

Air Quality

The Clean Air Act Amendments in 1990 required that all federal actions conform to State Implementation Plans for air quality. The subject allotments are not located in or near a non-attainment area.

Although the subject allotments are not within a non-attainment area, greenhouse gas emissions from non-renewable sources often occur from ranching operations. Greenhouse gases (GHG), including carbon dioxide (CO₂) and methane (CH₄), and the potential effects of GHG emissions on climate, are not regulated by the EPA under the Clean Air Act. However, greenhouse gas emissions are linked to climate change.

Under the **proposed action**, GHG emissions are expected to be generated primarily from vehicles used to manage cattle operations and may be estimated to be about 10 tons of relevant emission. The BLM recommends using best management practices to reduce these emissions, such as reducing number of trips, keeping vehicles well maintained and purchasing more fuel efficient vehicles. There would be no effect under the **no grazing alternative**.

Climate

In 2001, the Intergovernmental Panel on Climate Change (IPCC) predicted that by the year 2100, global average surface temperatures would increase 1.4 to 5.8°C (2.5 to 10.4°F) above 1990 levels. The National Academy of Sciences (2006) supports these predictions, but has acknowledged that there are uncertainties regarding how climate change may affect different regions. Computer model predictions indicate that increases in temperature will not be equally distributed, but are likely to be accentuated at higher latitudes. Warming during the winter months is expected to be greater than during the summer, and increases in daily minimum temperatures is more likely than increases in daily maximum temperatures. It is not, however, possible at this time to predict with any certainty the causal connection of site specific emissions from the Proposed Action or other alternatives in this EA to impacts on the global/regional climate.

Mean annual temperatures have risen across New Mexico and the southwestern U.S. since the early 20th century. When compared to baseline information, periods between 1991 and 2005 show temperature increases in over 95% of the geographical area of New Mexico. Warming was greatest in the northwestern, central, and southwestern parts of the state. Recurrent research has indicated that predicting the future effects of climate change and subsequent challenges of managing resources in the Southwest is not feasible at this time (USFS, 2008). However, it has been noted that forests at higher elevations in New Mexico, for example, have been exposed to warmer and drier conditions over a ten year period. Should the trend continue, the habitats and identified drought sensitive species in these forested areas and higher elevations may also be affected by climate change (Enquist and Gori).

Under the **proposed action** and the **no action alternative**, monitoring efforts will indicate vegetation shifts, allowing for site specific management modifications to address global climate change impacts.

Standards for Rangeland Health

Field crews completed the Rangeland Health Evaluation Summary Worksheet for all the subject allotments, with subdivision by parcel or distinct ecological site. Results are summarized in Table 2 by Soil/Site Stability, Hydrologic Function and Biotic Integrity and averages by site. In Table 2 each percent is a percent similar indicator score. The indicator score is created by multiplying an assigned value for departure from site descriptions/reference areas by the number of indicators at the level. Departure scores are categorized as: none to slight = 5, slight to moderate = 4, moderate = 3, moderate to extreme = 2 and extreme = 1, thus giving the most similar sites the highest score. For example, if all indicators under Soil/Site Stability were rated none to slight (5), the equation would be: (score) (nine indicators) / 45 X 100 = 100% similarity, or what is expected based on an Ecological Site Description.

Table 2. Summary of indicators by allotment.

Allotment Number	Observers	Survey Date	Percent of Soil/Site Stability	Percent of Hydrologic Function	Percent of Biotic Integrity	Average Percentage
734	Meyer, Mrstik, Young	4/10/2009	80%	82%	91%	84%
742	Meyer, Olivas, Harmon, Young	4/03/2009	80%	80%	91%	84%
765	Meyer, Mrstik, Young	4/07/2009	96%	94%	95%	95%
774	Meyer, Mrstik, Young	4/10/2009	82%	82%	93%	86%
782	Meyer, Mrstik, Young	4/07/2009	86%	90%	93%	90%
840	Meyer, Mrstik, Young	4/07/2009	100%	98%	91%	96%
875	Meyer, Mrstik, Young	4/07/2009	92%	90%	95%	92%
907	Meyer, Olivas, Harmon, Young	4/03/2009	76%	78%	91%	82%

913	Meyer, Olivas, Harmon, Young	4/03/2009	86%	86%	91%	88%
943	Harmon, Young	4/20/2009	84%	82%	87%	84%

The Standards are a tool for assessing range condition and are not analyzed under **any alternative** here. The Taos Field Office uses this tool to identify rangelands that may need extra management attention to maintain or improve health. If an allotment or pasture falls below 80% in the Soil Site Stability, Hydrologic, or Biotic indicators, monitoring should be established to determine the cause(s) of the low rating. When the casual factor is determined to be livestock, grazing would be manipulated and/or range improvements would be implemented to improve conditions. The BLM in consultation with the lessee and various other agencies, through an interdisciplinary effort would develop goals and objectives for the areas that are falling below 80% to improve the condition. These improvements would take place after further planning and proper NEPA analysis is completed.

Soils

The following soils are identified as occurring on the allotments analyzed in the watershed:

Laporte-Rock outcrop complex, steep. These soils consist of channery loams, with rooting depths between 10 to 20 inches. Parent materials of alluvium and colluvium derived dominantly from sandstone and limestone comprise these soils. Average annual precipitation ranges between 16 and 20 inches. Hazards for erosion are slight to moderate. Vegetation is characterized by pinyon, juniper, blue grama, oak, sideoats grama, and little bluestem.

Ribera-Sombordoro-Vibo association, moderately sloping. These soils consist of loams, sandy loams and stony fine sandy loams with rooting depths between 8 to over 60 inches. Parent materials of alluvial and eolian material derived from mixed sources comprise these soils. Average annual precipitation ranges between 16 and 20 inches. Hazards for erosion are slight to high. Vegetation is characterized by pinyon, juniper, blue grama, sideoats grama, little bluestem, pinyon ricegrass and western wheat.

Rock outcrop-Torriorthents complex, very steep. This soil is stony with variable depths and texture. Parent materials of sandstone and shale comprise this soil. Average annual precipitation is around 14 inches. Vegetation is characterized by little bluestem, sideoats grama, blue grama and galleta.

Tapia-Dean association, undulating. These soils consist of loams with rooting depths over 60 inches. Parent materials are primarily mixed sources, predominately limestone for the Dean soils. Average annual precipitation is about 18 inches. Hazards for erosion are moderate to high. Vegetation is characterized by blue grama, western wheat, sideoats grama, little bluestem, Galleta pinyon ricegrass and pinyon pine.

Tuloso-Rock outcrop-Sombordoro association, steep. These soils consist of stony sandy and stony loams with rooting depths ranging from 8 to 20 inches. Parent materials are primarily derived from sandstone. Average annual precipitation is about 16 inches. Hazards for erosion are slight to moderate. Vegetation is characterized by pinyon, juniper, blue grama, hairy grama, sideoats grama, little bluestem and pinyon ricegrass.

Tuloso-Sombordoro-Rock outcrop complex moderately sloping. These soils consist of stony sandy and stony loams with rooting depths ranging from 8 to 20 inches. Parent materials are primarily derived from sandstone. Average annual precipitation is about 16 inches. Hazards for erosion are slight to moderate. Vegetation is characterized by pinyon, juniper, blue grama, hairy grama, sideoats grama, and pinyon ricegrass.

Ustorthents-Rock outcrop complex, very steep. This soil is stony with variable depths and texture. Parent materials of sandstone and shale comprise this soil. Average annual precipitation is around 16 inches. Vegetation is characterized by sideoats grama, pinyon, juniper and oak.

Vibo-Ribera association, undulating. These soils consist of sandy loams, with rooting depths over 60 inches. Parent materials of alluvial and eolian material derived from mixed sources comprise these soils. Average annual precipitation ranges between 16 and 20 inches. Hazards for erosion are moderate to high. Vegetation is characterized by pinyon, juniper, blue grama, sideoats grama, little bluestem, pinyon ricegrass and Indian ricegrass.

Vibo-Rock outcrop complex, undulating. These soils consist of sandy loams, with rooting depths over 60 inches. Parent materials of alluvial and eolian material derived from mixed sources comprise these soils. Average annual precipitation ranges between 16 and 20 inches. Hazards for water erosion are moderate to high. Vegetation is characterized by pinyon, juniper, blue grama, sideoats grama, little bluestem, pinyon ricegrass and Indian ricegrass.

Under current management, soil indicators for the allotments point to good soil condition (Average = 86%) with the lowest Soil and Site Stability rating being 76% (see the ‘Standards for Rangeland Health’ portion and Table 2).

Based on current knowledge and current management practices, the **proposed action** would result in no impact or have a positive impact, as current livestock management does not appear to be affecting soil attributes. The **no grazing alternative** would remove livestock from the area and eliminate both the positive and negative impacts of livestock.

Water Quality

Surface – These allotments are located in Hydrologic Unit Code (HUC) 13060001, or the Pecos Headwaters Watershed, which comprise 1,284,912 acres along the Pecos River and its tributaries and is further divided into smaller HUCs. The allotments analyzed in this document occur in three of these smaller HUCs (Table 3).

Table 3. Summary of BLM allotments by 10 Digit HUC (subwatershed and NMED assessment unit).

NMED Assessment Unit	Subwatershed	Allotments	BLM Acreage	Percent of Subwatershed
NM-2211.A_10	Outlet Cañon Blanco	840	248	0.2%
NM-2211.A_10	Headwaters Cañon Blanco	765, 782, 840, 875, 913	932	0.9%
NM-2213_00	Cow Creek - Pecos River	943	53	0.1%
NM-2213_00	Tecolote Creek - Pecos River	774, 907, 943	200	0.2%
NM-2212_08	Tecolote Creek	734, 742	288	0.2%

The New Mexico Environment Department (NMED) surveyed and evaluated perennial reaches in the Pecos Headwater watershed in 2006 and identified impairments for stream reaches not meeting water quality standards for designated uses. The following impairments are identified for these units:

NM-2211.A_10, Pecos River (Santa Rosa Reservoir to Tecolote Creek) – Includes 320 acres of BLM in allotment 919. This unit was assessed in 2008 and categorized as not supporting limited warm water fishery. Probable cause was sedimentation/siltation, with probable sources being, natural sources (wildlife), rangeland grazing (agriculture), and flow alterations from water diversions (hydromodification).

NM-2213_00, Pecos River (Tecolote Creek to Cañon de Manzanita) – Includes 296 acres of BLM in allotments 746, 802, 842 and 895. This unit was assessed in 2008 and categorized as not supporting marginal coldwater fishery. Probable cause was sedimentation/siltation, with probable sources being removal of riparian vegetation (habitat alterations), rangeland grazing (agriculture) and recreation pollution sources (recreation and tourism - non boating).

Based on Rangeland Health Evaluation surveys, there are not likely to be any increased water quality impairments resulting from the **proposed action**. This opinion is based on the site assessment showing few indicators of surface erosion as a factor to reduce water quality. Allotment 907 had the lowest ratings for Soil/Site Stability and Hydrologic Function, 76% and 78% respectively. The averages were 86% and 86%, respectively, across the allotments. Current livestock management does not appear to be adversely affecting water quality within the watershed as whole. The **no grazing alternative** may or may not reduce probable sources of impairment by removing livestock due to the low number of livestock and the low percentage of federal land.

Wetlands / Riparian Areas

Allotments 742, 774 and 907 contain riparian areas associated with the intermittent streams (742 and 774) and the Pecos River (907). In the riparian assessment allotment 907 was deemed as non-functional. The riparian area within the allotment is approximately two tenths of a mile of the Pecos River with roughly 0.1 acres of riparian vegetation. Vegetation is limited to grasses and weedy species for the understory and cottonwoods and Russian olive for the overstory. The Pecos River canyon, for the most part, is privately owned once the river leaves Forest Service land 40 or so miles to the north. At this point some 50 miles downstream of the headwaters, the Pecos River is a very flashy system with snow melt and monsoonal thunderstorms resulting in repeated changes to river channel morphology and siltation, restricting vegetation growth periodically after these high flow events. Due to these circumstances and the small area the BLM has the possible potential to influence riparian and floodplain functions, fencing is been determined to not to be a viable solution. The change adopted in the last lease renewal to keep livestock out of the river for 120 days from year round use appears to be making improvements, but the rating remains as non-functional. Therefore, it is determined that the **proposed action** may have an adverse affect on the riparian areas, while the **no grazing alternative** may or may not remove any effect livestock grazing due to the surrounding private lands and the fencing being determined to not to be a viable solution.

Vegetation

Vegetation expected for the soils identified in the allotments include: pinyon, juniper, blue grama, hairy grama, sideoats grama, little bluestem, pinyon ricegrass, galleta, western wheatgrass, buffalograss, ring muhly, vine-mesquite, pinyon ricegrass, oak, sagebrush, cottonwood, willow and other species in smaller amounts.

Grazing may impact vegetation under adverse climate conditions or under poor grazing management. Other impacts to vegetation have been the lack of natural disturbance, such as fire. It has been determined that the current grazing systems within the subject allotments are not adversely effecting the vegetation. The lowest biotic integrity rating for the subject allotments was 87% similarity to the Ecological Site Description (See section 'Standards for Rangeland Health and Table 2). Residual impacts of livestock grazing would not change under the **proposed action** due to the moderate removal of current year's growth on forage species. Therefore, under the **proposed action**, no additional impacts to vegetation are expected. Under the **no grazing alternative**, there would be no measurable vegetative removal from the allotment.

Noxious Weeds

Any time livestock are grazed in other areas and then returned to the allotment or fed non-certified feed there is a risk of introducing exotic or noxious plant species to the allotment. The **proposed action** would not pose additional risks of introduction or spread of noxious weeds beyond those already occurring. Under both the **proposed action** and **no grazing alternative**, weeds could be introduced by road maintenance equipment or recreational activities.

Under the **proposed action**, weeds could be introduced to the allotment through livestock feces, emergency

feed, watering equipment or vehicles associated with the management of livestock. The **no grazing alternative**, would limit the risk of new infestation to those caused by human activities and wildlife.

Cultural Resources

Reconnaissance archaeology inventories were carried out within the area of the subject allotments during the spring and summer of 1999 and again in 2009. Only allotment 742, 907 and 913 were not visited by an archaeologist, but they were visited by other members of the interdisciplinary team. Sites found consists of a large lithic scatter in allotment 943 and a metate in allotment 734 Livestock grazing had not contributed to any site degradation. Although archaeological sites were discovered in some of the allotments visited, no direct affects were observed on any of these sites that can be related to livestock grazing. The area along the near the Pecos River was likely used in prehistoric times for hunting and gathering activities, seasonal camp sites and agriculture around water sources. The Pecos River Valley contains many Pueblo villages of various sizes and the Apaches were also known to have used the area.

Under the **proposed action**, grazing intensity would remain at current levels. Three of the ten subject allotments were not visited by an archaeologist but based upon a literature, survey files review and the reconnaissance inventory, no direct impacts have been observed to potential cultural resources from current grazing activities. Natural erosion due to ground disturbance could damage sites; these effects may be slightly less under the **no grazing alternative** than the **proposed action**.

Wildlife

Existing habitat within the allotments include pinyon-juniper woodlands and grasslands, and supports seasonal home ranges for elk, mule deer, mountain lion, black bear, bobcat, fox, coyote, rodents, bats, raptors, songbirds, amphibians, and a variety of insects.

Judicious grazing practices can have positive effects on wildlife and can be a beneficial management tool, including increases in vegetation composition diversity and improvement of forage availability and quality for early to mid-successional wildlife species; creation of patchy habitat with high structural diversity for feeding, nesting and hiding; opening up areas of dense vegetation to improve foraging areas for a variety of wildlife; removing rank, coarse grass that would encourage regrowth and improve abundance of high quality forage for wild ungulates; stimulating browse production by reducing grass biomass; and improving nutritional quality of browse by stimulating plant regrowth (NMDGF 2005).

Studies in northern New Mexico have indicated that total elimination of grazing did not improve range condition on upland or lowland sites when compared with adjacent moderately grazed areas (Holecheck and Stephenson 1985). Smith et al. (1996) found that lightly grazed climax rangelands and conservatively grazed late seral rangelands had similar songbird and total bird populations. They also concluded that wildlife diversity was higher on the conservatively grazed late seral than the lightly grazed climax rangeland. Studies in southeastern Arizona by Bock et al. (1984) support the hypothesis that conservatively to moderately grazed areas in mid or late seral condition supported greater diversity of wildlife than ungrazed areas in climax condition. Livestock grazing was also shown to enhance forage for elk and manage their distribution by increasing availability and nutritional value of preferred grasses in early growth stages (Holechek et al. 2004).

Best management practices would ensure that forage production within this area can support fish, wildlife and livestock on a sustained basis. The functionality assessment of habitat components is outlined in Table 4.

Table 4. Functionality assessment for Biotic Fauna.

Allotment	Biotic Fauna Rating	Summary
734	Proper Functioning Condition	N/A

742	Functioning at Risk-Static	Piñon / Juniper encroachment
765	Proper Functioning Condition	
774	Proper Functioning Condition	
782	Proper Functioning Condition	
840	Functioning at Risk-Static	Piñon / Juniper encroachment
875	Proper Functioning Condition	N/A
907	Functioning at Risk-Upward Trend	N/A
913	Proper Functioning Condition	N/A
943	Functioning at Risk-Static	Piñon / Juniper encroachment

The **proposed action** would not have a notable adverse impact on wildlife. The **no grazing alternative** would remove all possible competition between wildlife and livestock.

Threatened or Endangered Species

Federally listed threatened (T) and endangered (E) species in San Miguel County, New Mexico, include: black-footed ferret (*Mustela nigripes*) (E); Southwestern willow flycatcher (*Empidonax traillii extimus*) (E); Holy Ghost Ipomopsis (*Ipomopsis sancti-spiritus*) (E); Arkansas river shiner (*Notropis girardi*) (T); and Mexican spotted owl (*Strix occidentalis lucida*) (T). It is determined that there are no federally listed threatened or endangered species likely to be found in the subject allotments. There is no designated critical habitat for any species listed by the U.S. Fish and Wildlife Service (USFWS) within the allotments.

BLM Sensitive Species that could occur in the allotments include several bat species, bald eagle (*Haliaeetus leucocephalus*), Western burrowing owl (*Athene cunicularia hypugea*), ferruginous hawk (*Buteo regalis*), loggerhead shrike (*Lanius ludovicianus*), Baird's sparrow (*Ammodramus bairdii*), and the Texas horned lizard (*Phrynosoma cornutum*).

It is determined that the **proposed action** and **no grazing alternative** would have no affect on federally listed proposed, candidate, threatened or endangered species, and no adverse impact on BLM Sensitive species.

Migratory bird species of conservation concern (BLM Interim Management Guidance 2008-050) that have the potential to occur on the allotments include burrowing owl, ferruginous hawk, prairie falcon, golden eagle, loggerhead shrike, mourning dove, and pinyon jay. The **proposed action** has the potential to have a negative effect upon individual birds, eggs, young and/or the nesting habitat of ground nesting birds, however, it is unlikely there would be a notable impact to the population or species level. The **no grazing alternative** could have either a beneficial or detrimental effect on individual migratory bird species of concern, depending on the response of range condition and individual species requirements, but affects at the population or species level would not be adverse.

Social / Economic Issues

BLM permits/leases are transferred to qualified applicants at the request of the current permittee/lessee; the BLM has had no influence on the social characterization of those who currently hold these permits. Therefore, it has been determined that neither the **proposed action** nor the **no grazing alternative** would be likely to result in impacts which would occur disproportionately in low-income groups, minorities or Indian tribes. With regard to economics, the **proposed action** would allow the permittee to continue the lifestyle they have known and earn money from cattle operations on federal lands. Suspension of the grazing permit under the **no grazing alternative** would cause monetary losses to the permittee/lessee, in the form of increased costs to rent additional pasture or in purchasing feed.

Cumulative Impacts

Cumulative Actions

Livestock grazing is only one of several disturbance activities within the area. Other possible cumulative actions in conjunction with livestock grazing on BLM administered lands include: historic grazing (grazing prior to the 1976 Federal Land Policy and Management Act and subsequent grazing policy), off-road vehicles use, other recreational use and road construction and maintenance.

Cumulative Effects

Based on current management the land health standards are being met, therefore there would be no measurable cumulative impacts from the **proposed action** or the **no grazing alternative**. Also, BLM land comprises only a small portion of the watershed, roughly 1.0% of the area within the Pecos Headwater watershed. (Percentages are relative to lands within Taos Field Office.) The subject allotments cover roughly 14% of the BLM land in this watershed and 0.1% of the total land mass of this watershed. Due to the relatively low percentages of federal land involved, land health standards being met and no changes being made to livestock management on these allotments, there would be no measurable cumulative impacts from the **proposed action** or the **no grazing alternative**.

Consultation and Coordination

This Environmental Assessment has been mailed to all individuals or organizations who have notified the Taos Field Office of their interest. These individuals or organizations are given 15 days to make comments on the accuracy of this document.

Preparers

This document was prepared and reviewed by a team from the Taos Field Office. They include:

Merril Dicks - Archeologist
Scott Draney - Department of Game and Fish
Greg Gustina - Fish Biologist
Brad Higdon - NEPA Compliance
Francina Martinez - Realty Specialist
Tami Torres - Outdoor Recreation Planner
Paul Williams – Archeologist
Valerie Williams - Wildlife Biologist
Jacob Young - Rangeland Management Specialist

References

- Bock, C.E., J.H. Bock, W.R. Kenny, and V.M. Hawthorne. 1984. Response of birds, rodents, and vegetation to livestock exclosure in a semidesert grassland site. *Journal of Range Management* 37: 239-242.
- EPA Inventory of US Greenhouse Gas Emissions and Sinks: 1990-2006. Environmental Protection Agency, Washington, D.C.
- Enquist, Carolyn and Gori, Dave. Implications of Recent Climate Change on Conservation Priorities in New Mexico. April 2008.
- Holechek, J.L. and T. Stephenson. 1985. Comparison of big sagebrush vegetation in north central New Mexico under moderately grazed and grazing excluded conditions. *Journal of Range Management* 36: 455-456.
- Holechek, J.L., T.T. Baker, and J.C. Boren. 2004. Impacts of controlled grazing versus grazing exclusion on rangeland ecosystems: what we have learned. New Mexico State University Cooperative Extension Service,

Range Improvement Task Force Report 57. Las Cruces, New Mexico. 42 pp.

Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: The Physical Basis (Summary for Policymakers). Cambridge University Press. Cambridge, England and New York, New York. (Available on the Internet: <http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf>)

National Academy of Sciences. 2006. Understanding and Responding to Climate Change: Highlights of National Academies Reports. Division on Earth and Life Studies. National Academy of Sciences. Washington, D.C. (Available on the Internet: <http://dels.nas.edu/basc/Climate-HIGH.pdf>.)

New Mexico Department of Game and Fish. 2005. Comprehensive Wildlife Conservation Strategy for New Mexico. New Mexico Department of Game and Fish. Santa Fe, New Mexico. 526 pp + appendices.

Smith, G., J.L. Holechek, and M. Cardenas. 1996. Wildlife numbers on excellent and good condition Chihuahuan Desert rangelands: an observation. *Journal of Range Management* 49: 489-493.

Soil Conservation Service Soil Survey of Harding, Mora and San Miguel Counties, New Mexico, 1982.

Water Quality and Water Pollution Control in New Mexico, State of NM Water Quality Control Commission, 2002.

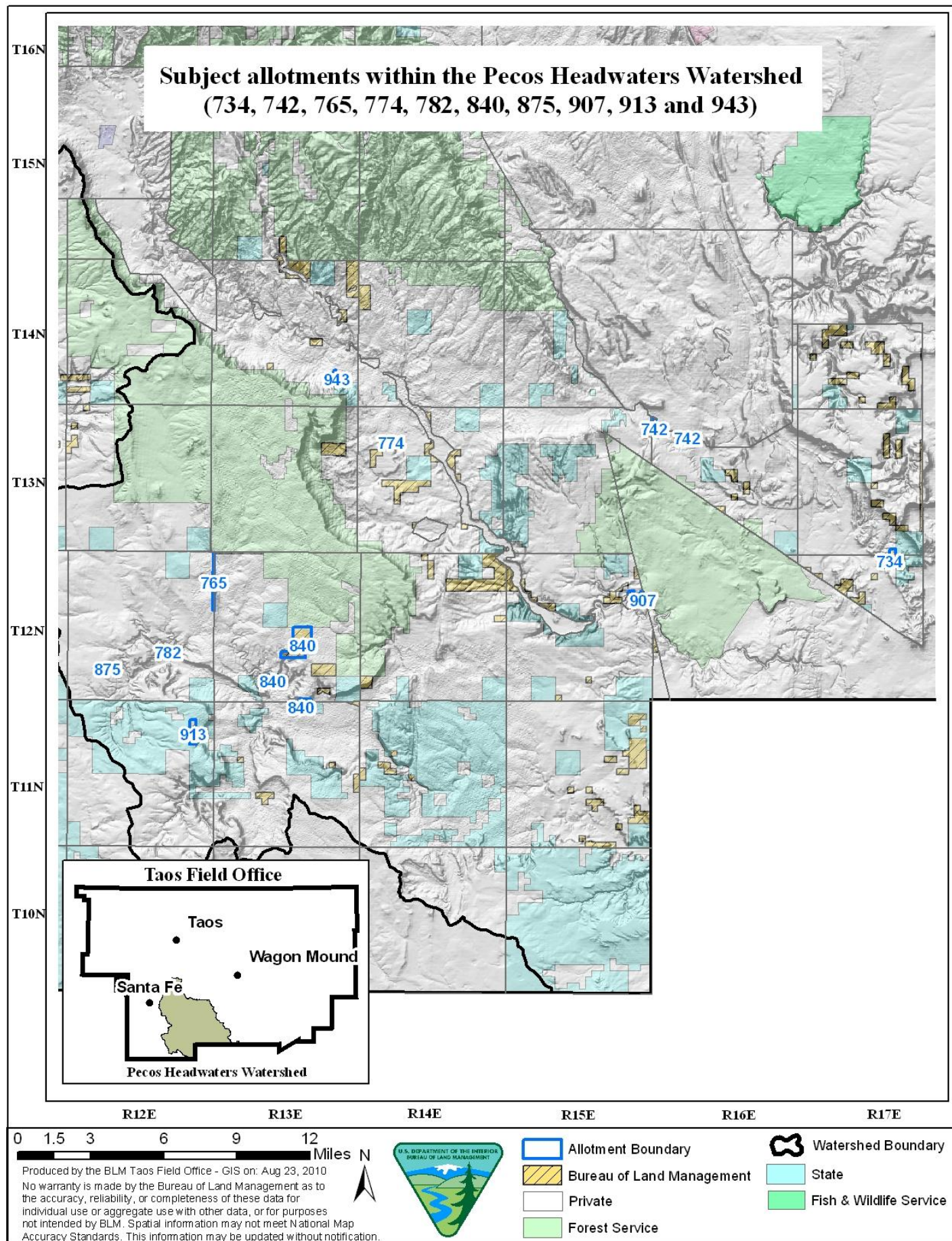


Figure 1. Map of subject allotments within the Pecos Headwaters Watershed.